

What is claimed is:

1. A code division multiple access (CDMA) type mobile station comprising:
  - a radio portion for modulating a radio signal to produce a received signal and for demodulating a transmission signal into said radio signal;
  - a receiving portion for despreading said received signal to produce received data;
  - a transmitting portion for spreading transmission data to produce said transmission signal;
  - a data processing portion for processing said received data and said transmission data; and
  - a control portion for controlling operation of said radio portion, said receiving portion, said transmitting portion, and said data processing portion,said receiving portion comprising:
  - a first receiving portion for receiving said received signal at a first chip offset to which a chip offset is temporally early rounded off to produce a first received data symbol; and
  - a second receiving portion for receiving said received signal at a second chip offset to which the chip offset is temporally late rounded off to produce a second received data symbol,said CDMA type mobile station further comprising a combining portion, disposed between said receiving portion and said data processing portion, for combining the first received data symbol with the second data symbol to supply a combined data symbol to said data processing portion.
2. A CDMA type mobile station as claimed in claim 1, wherein each of said first and said second receiving portions comprises:
  - a finger processing portion for despreading and phase correcting said received signal to produce the received data having a symbol rate; and

a correlation measuring portion for measuring a correlation value using a pilot symbol.

3. A CDMA type mobile station as claimed in claim 2, wherein said finger processing portion comprises a plurality of finger circuits, each of said first and said second receiving portions further comprising a combining portion for combining the received data from said plurality of finger circuits.

4. A CDMA type mobile station as claimed in claim 1, wherein further comprises a cell searching portion for carrying out despreading, phase-correction, and demodulation of said received signal to detect a frame timing of a primary common control channel from each of radio base stations, said cell searching portion sending the frame timing to said control portion.

5. A hard-handover method for use in a code division multiple access (CDMA) system comprising a mobile station, first and second radio base stations, and a radio network controller connected to said first and said second radio base stations, said hard-handover method carrying out hard-handover operation in which, with a movement of said mobile station, said mobile station moves between cells by changing a radio base station communicated with the mobile station from said first base station to said second base station, said hard-handover method comprising the steps of:

measuring, in said mobile station, a timing difference between a primary common control channel frame timing of said first radio base station and a primary common control common control channel frame timing of said second radio base station;

sending the timing difference from said mobile station to said radio network controller;

sending a chip offset from said radio network controller to said second radio base station;

rounding, in said second radio base station, the chip offset off;  
starting, in said second radio base station, transmission of a  
dedicated physical channel;

stopping, in said mobile station and said first radio base station,  
transmission of the dedicated physical channel;

temporally early rounding, in said mobile station, the chip offset off  
to a first chip offset;

temporally late rounding, in said mobile station, the chip offset off  
to a second chip offset;

receiving, in said mobile station, said dedicated physical channel at  
said first chip offset to produce first received data;

receiving, in said mobile station, said dedicated physical channel at  
said second chip offset to produce second received data;

measuring, in said mobile station, a first correlation value of said  
first received data;

measuring, in said mobile station, a second correlation value of said  
second received data;

selecting, in said mobile station, as a selected chip offset, one of  
said first and said second chip offsets that has a larger one of said first and  
said second correlation values; and

receiving, in said mobile station, said dedicated physical channel at  
said selected chip offset.

6. A hard-handover method of a mobile station in a code division  
multiple access (CDMA) communication system, comprising the steps of:

calculating a reception timing of a handover destination on the basis  
of a timing difference between a primary common control channel sent  
from a first radio base station of a handover source and a primary common  
control channel sent from a second radio base station of the handover  
destination;

rounding said reception timing of the handover destination off to first and second reception timings, the first reception timing being earlier than the second reception timing;

simultaneously carrying out data reception of a received signal using the first and the second reception timings to produce first and second received data:

carrying out correlation decision of said first and said second received data to produce first and second correlation values; and

receiving said received signal using a selected one of the first and the second reception timings that has a larger one of the first and the second correlation values.